WHAT IS CLAIMED IS:

1. A method for chemical synthesis using a synthesizer, an analyzer, and a computer, the method including the steps of:

dispensing the reagents into a plurality of wells in a reaction block;

reacting in the synthesizer the reagents using various operating conditions;

obtaining a sample from the plurality of wells;

analyzing the sample using the analyzer to determine the components of the sample;

analyzing the components of the sample and the various operating conditions to generate a statistical analysis; and

generating suggested parameters for future experiments based on the statistical analysis.

2. The method as claimed in claim 1 wherein the step of reacting in the synthesizer the reagents using various operating conditions includes modifying the temperature of the well.

3. The method as claimed in claim 2 wherein the step of reacting in the synthesizer the reagents using various operating conditions includes reacting the reagents by mixing the reactants in the well.

4. The method as claimed in claim 1 further comprising the step of stopping the reaction in the wells prior to obtaining a sample from the plurality of wells.

5. Apparatus for chemical synthesis comprising;

a computer;

a synthesizer in communication with the computer, the synthesizer having a reaction block containing a plurality of wells, the synthesizer also having devices to control the atmospheric conditions of the reactions in the plurality of wells;

an analyzer in communication with the computer, the analyzer analyzing the components of the reactions;

the computer having a processor for sending commands to the synthesizer to control the atmospheric conditions, the processor also having a parameter look-up table containing the parameters for the reaction, the processor further receiving the analysis from the analyzer of the components of the reactions and generating a statistical analysis based on the components of the reactions and the parameters of the reaction, the processor generating suggested parameters for future experiments based on the statistical analysis.